UvA Master Evening November 10, 2016

— Computer Science —

A Joint Degree offered by:

UNIVERSITY OF AMSTERDAM

UvA Master Evening November 10, 2016: Computer Science

Your hosts today:

- **Chris Ouwehand**
  Master student Computer Science (VU)
- **Alban Ponse**
  Associate prof. (UHD) Computer Science (UvA)
  UvA program coordinator

Our programme today:

- The new **Joint-Degree Master in Computer Science** in Amsterdam

Who is us ?

+

=

Two top universities

for the price of one !!

UvA and VU joint Master of Science Programme

Disadvantage:

- Two teaching locations: Science Park and Zuidas

Advantages:

- A Joint Degree: One diploma issued by both universities
- Larger selection of courses
- More research opportunities for graduation projects
- More world-class researchers at your finger tips
- More resources
- More of everything ...

MSc Computer Science UvA+VU

Fact Sheet:

- 2 years
- 120 ECTS credits
- Taught in English
- Internationally visible
- International student population
- Leading to a top position in industry (in NL and abroad)
- Leading to a position in industrial research
- Leading to a career in academia

Curriculum Structure

Four pillars:

- Master Core (54 EC)
- Choice of 6 tracks (30 EC):
  - Big Data Engineering
  - Computer Systems Security
  - Foundations of Computing and Concurrency
  - Internet and Web Technology
  - Parallel Computing Systems
  - Software Engineering and Green IT
- Constrained Choice packages (6–18 EC)
- Free Choice courses (18–30 EC)

Master Core (54 EC)

- **Distributed Systems** (6 EC)
  laying the foundation of today's IT systems where everything is connected with everything else
- *one* of the following courses:
  - **History of Digital Cultures** (6EC)
    placing CS into its societal and historical context
  - **ICT 4 Development** (6EC)
    on designing and deploying ICT projects in developing areas
  - **E-Commerce Law** (6EC)
    understanding of legal issues when doing business online
- **Literature Study and Seminar** (6 EC)
  investigating existing solutions to a research question and presenting findings within one of the research groups
- **Graduation Project** (36 EC)
  independently executing a project, turning everything learned so-far into a master piece

Track: Big Data Engineering

Track theme:

- The technology for transforming data into insights

Track core:

- High-performance Computing and Big Data
- Web Data Processing Systems
- Large-Scale Data Engineering
- Information Visualization
- Data Mining Techniques

Track coordinator:

- Dr Adam Belloum (`aszbelloum.wixsite.com/aszbelloum`)

Track: Computer Systems Security

Track theme:

- Security of computer systems, malware analysis and defense

Track core:

- Systems Security
- Binary and Malware Analysis
- Software Exploitation
- Cybercrime and Forensics
- Kernel Programming

Track coordinator:

- Prof.dr Herbert Bos (`www.vusec.net/people/herbert-bos/`)

Track: Foundations of Computing and Concurrency

Track theme:

- Formal methods, especially in concurrent programming

Track core:

- Logical Verification
- Advanced Logic
- Distributed Algorithms
- Term Rewriting Systems
- Protocol Validation

Track coordinator:

- Dr Femke van Raamsdonk (`www.cs.vu.nl/~femke/`)

Track: Internet and Web Technology

Track theme:

- Software technology for web, internet, and cloud computing

Track core:

- Internet Programming
- Service Oriented Design
- Distributed Algorithms
- Performance of Networked Systems
- Web Services and Cloud-based Systems

Track coordinator:

- Dr Spyros Voulgaris (`acropolis.cs.vu.nl/~spyros/www/`)

Track: Parallel Computing Systems

Track theme:

- Parallel computing is everywhere: from mobile phones to supercomputers

Track core:

- Parallel System Architectures
- Programming Large-scale Parallel Systems
- Parallel Programming Practical
- Programming Multi-core and Many-core Systems
- Performance Engineering

Track coordinator:

- Dr Clemens Grelck (`staff.science.uva.nl/c.u.grelck/`)

Track: Software Engineering and Green IT

Track theme:

- Systematic and quantifiable approaches to the development, execution and maintenance of software

Track core:

- Service Oriented Design
- Software Asset Management
- Green Lab
- Software Architecture
- Software Testing

Track coordinator:

- Prof.dr Patricia Lago (`www.s2group.cs.vu.nl/people/patricia-lago/`)

Looking Beyond your Track

Ensuring the breadth of each individual study program

Constrained choice modules (6–18 EC):

- One course on foundations
- One course on software engineering
- One course on programming
- One course on mathematics

- Each to be chosen from a predefined set of choices
- Partially covered by the chosen track's core

Free Choice Courses

Free Choice (18–30 EC):

- Courses from other tracks (pre-approved)
- Other courses from constrained choice packages (pre-approved)
- Any course from your track's pre-approved list of suggestions
- Any other course (Master-level) from Computer Science, Computational Science, Logic, Artificial Intelligence, or Bioinformatics (to be approved by exam committee)

YOU decide about much of the study programme

Want to go to industry ?

- Do your graduation project as an internship with a company

Want to go for a PhD / more ambitious job ?

- Combine
  - literature study
  - individual project
  - graduation project

  for a more ambitious scientific research project of up to 48 EC or almost a year of work

Admission to the Programme

For university students

- BSc degree in Computer Science or Informatica (or closely related subject)
- Other degrees: individual assessment

For HBO students

- BSc degree in Informatica (or closely related subject)
- Individual assessment of strengths and deficits
  - Additional courses from our BSc/MSc programmes as necessary

Why you should join the VU/UvA Master in Computer Science

10 good reasons:

- VU and UvA are among the top universities in Europe
- Learn from world-renowned scientists
- Small student groups
- Wide choice of courses
- Excellent teacher/student ratio
- Become part of a research group for your graduation project
- Modern state-of-the-art facilities
- International environment at home
- Excellent job market for graduates (academia or industry)
- Get two universities for the price of one

The End — links and more information

- www.vu.nl/ma-computerscience

Programme director:

- Prof.dr Wan Fokkink (www.cs.vu.nl/~wanf/)

These slides:

- staff.fnwi.uva.nl/a.ponse/mastervoorlichting2016.pdf
  (or fnwi $\mapsto$ science)

UvA contacts:

- For BDE: dr Adam Belloum
  (aszbelloum.wixsite.com/aszbelloum)
- For PCS: dr Clemens Grelck
  (staff.science.uva.nl/c.u.grelck/)
- General and for FCC: dr Alban Ponse
  (staff.science.uva.nl/a.ponse/)